

## WHAT IS CLAIMED IS:

1. A method of measuring the ability of a compound to alter HCV activity using a beta-lactamase reporter system comprising the steps of:
  - 5 a) combining together said compound, a screening cell and a beta-lactamase substrate under conditions supporting beta-lactamase activity, wherein said screening cell harbors a first HCV replicon comprising a selection sequence and a second HCV replicon comprising a nucleotide sequence encoding a beta-lactamase; and
  - 10 b) measuring the ability of said compound to alter beta-lactamase production.
2. The method of claim 1, wherein said cell is a Huh-7 cell or is derived from a Huh-7 cell.
- 15 3. The method of claim 2, further comprising the use of clavulanic acid in an amount effective to enhance signal-to-background ratio.
4. The method of claim 2, wherein said HCV replicon is a  
20 chimeric replicon comprising one or more HCV regions from two or more HCV strains, wherein at least one of the regions is a HCV-1a 3' UTR.
5. The method of claim 4, wherein at least one of said regions is a non-structural region from a clinical isolate.
- 25 6. The method of claim 4, wherein said second HCV replicon consists of either a modified version of SEQ ID NO: 1 or a modified version of SEQ ID NO: 2, wherein said modified version of SEQ ID NO: 1 contains SEQ ID NO: 1 modified by replacing the NS5B region with a NS5B region from a clinical isolate and  
30 said modified version of SEQ ID NO: 2 contains SEQ ID NO: 2 modified by replacing the NS5B region with a NS5B region from a clinical isolate.
7. A HCV replicon enhanced cell comprising a first HCV replicon and a second HCV replicon, wherein said first HCV replicon comprises a selection

sequence, said cell supports chronic or persistent replication of said second HCV replicon and said second HCV replicon is different from said first HCV replicon.

5           8.     The HCV replicon enhanced cell of claim 7, wherein said cell is a Huh-7 cell or is derived from a Huh-7 cell.

          9.     The HCV replicon enhanced cell of claim 8, wherein said second HCV replicon comprises a beta-lactamase reporter.

10           10.    The HCV replicon enhanced cell of claim 9, wherein said second HCV replicon is a chimeric replicon comprising one or more HCV regions from two or more HCV strains, wherein at least one of the regions is a HCV-1a 3' UTR.

15           11.    A method of producing an HCV replicon enhanced cell comprising a first and a second replicon comprising the steps of:  
            a) introducing into a cell said first HCV replicon, wherein said first replicon comprises a selection sequence,  
            b) obtaining a replicon enhanced cell, wherein said replicon enhanced  
20    cell supports chronic or persistent replication of said first replicon; and  
            c) introducing into said replicon enhanced cell said second replicon, wherein said second replicon comprising a reporter,  
            provided that said first replicon is present in an amount compatible  
25    with replication of said second replicon.

          12.    The method of claim 11, wherein said cell is a Huh-7 cell or is derived from a Huh-7 cell.

30           13.    The method of claim 12, further comprising the step of partially curing said first replicon from said cell.

          14.    The method of claim 13, wherein said reporter is beta-lactamase.

15. The method of claim 13, wherein said first HCV replicon is a chimeric replicon comprising one or more HCV regions from two or more HCV strains, wherein at least one of the regions is a HCV-1a 3' UTR.

5 16. The method of claim 15, wherein at least one of said regions is a non-structural region from a clinical isolate.

10 17. The method of claim 15, wherein said second HCV replicon consists of either a modified version of SEQ ID NO: 1 or a modified version of SEQ ID NO: 2, wherein said modified version of SEQ ID NO: 1 contains SEQ ID NO: 1 modified by replacing the NS5B region with a NS5B region from a clinical isolate and said modified version of SEQ ID NO: 2 contains SEQ ID NO: 2 modified by replacing the NS5B region with a NS5B region from a clinical isolate.

15 18. A HCV replicon comprising a beta-lactamase reporter, wherein said replicon does not contain a sequence coding for resistance to an agent that inhibits cell growth.

20 19. A chimeric HCV replicon comprising one or more HCV regions from two or more HCV strains, wherein at least one of the regions is a HCV-1a 3' UTR.

25 20. The chimeric HCV replicon of claim 19, wherein at least one of said regions is a non-structural region from a clinical isolate.

30 21. The chimeric HCV replicon of claim 19, wherein said HCV replicon consists of either a modified version of SEQ ID NO: 1 or a modified version of SEQ ID NO: 2, wherein said modified version of SEQ ID NO: 1 contains SEQ ID NO: 1 modified by replacing the NS5B region with a NS5B region from a clinical isolate and said modified version of SEQ ID NO: 2 contains SEQ ID NO: 2 modified by replacing the NS5B region with a NS5B region from a clinical isolate.

35 22. The chimeric HCV replicon of claim 21, wherein said replicon consists of either SEQ ID NO: 1 or SEQ ID NO 2.

23. The chimeric HCV replicon of claim 20, wherein said replicon comprises restriction sites not present in naturally occurring HCV that are located about 3' and about 5' from an HCV target region, wherein said restriction sites do not affect replicon activity.

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24. The chimeric HCV replicon of claim 23, wherein said restriction sites are silent with respect to amino acid coding.

25. The chimeric HCV replicon of any one of claims 19, 20, 23, or  
10 24, wherein said chimeric replicon comprises a beta-lactamase reporter.

26. The chimeric HCV replicon of claim 25, wherein said replicon does not contain a sequence coding for resistance to an agent that inhibits cell growth.